

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Currently Amended) A three-dimensional data input method for inputting three-dimensional data using a three-dimensional data input apparatus that is constructed to input the three-dimensional data of an object displayed on a monitor screen by shooting the object, the method comprising the steps of:

generating image data of a three-dimensional shape model in accordance with the first three-dimensional data inputted from a part of the object, the image corresponding to the shape of the first three-dimensional data;

changing a posture of the image as the first three-dimensional data for specifying unmeasured portions;

displaying on the monitor screen the image of the three-dimensional shape model as a guide image for framing ~~in order to perform registration for a subsequent shooting~~;

performing a framing so that the guide image is overlapped on an image of the object that corresponds to the guide image; and

performing shooting the object after the framing ~~is performed in order to obtain~~ second three-dimensional data; and

performing registration of the first three dimensional data and the second three-dimensional data by converting coordinates of the first three-dimensional data and the

second three-dimensional data then pasting the first three-dimensional data and the second three-dimensional data together so that resulting data are new three-dimensional data.

2. (Currently Amended) A three-dimensional data input apparatus for obtaining three-dimensional data of an object by shooting the object, the apparatus comprising:

 a monitor for displaying images;
 an image generator for generating a three-dimensional model image of the object in accordance with ~~the~~ first three-dimensional data of the object obtained by the shooting and changing a posture of the image as the first three-dimensional data for specifying unmeasured portions; and

 a display controller for displaying on the monitor the three-dimensional model image as a guide image for framing, together with an image of the object that corresponds to the guide image, wherein

 during framing, the monitor is controlled to display the guide image overlapping on the image of the object that corresponds to the guide image,

after framing, shooting the object is performed in order to obtain second three-dimensional data, and

registration of the first three dimensional data and the second three-dimensional data is performed by converting coordinates of the first three-dimensional data and the second three-dimensional data then pasting the first three-dimensional data and the

second three-dimensional data are pasted together so that resulting data are new three-dimensional data.

3. (Original) The three-dimensional data input apparatus according to claim 2, further comprising a memory for memorizing the three-dimensional data of the object obtained by the shooting.

4. (Original) The three-dimensional data input apparatus according to claim 3, wherein the image generator generates the three-dimensional model image in accordance with the data memorized in the memory.

5. (Currently Amended) A three-dimensional data input method of using a three-dimensional data input apparatus that is constructed to input ~~the~~ three-dimensional data of a portion of an object displayed on a monitor screen by shooting the object, the method comprising the steps of:

displaying on the monitor screen an image of a three-dimensional shape model having a shape substantially identical to the object as a guide image for framing, the image of the three-dimensional shape model being based on a predetermined three-dimensional shape model data;

changing a posture of the image as ~~the~~ first three-dimensional data for specifying unmeasured portions;

framing so that the image of the input portion is overlapped on the guide image;
and

shooting the object after the framing is performed in order to obtain second three-dimensional data, and

performing registration of the first three dimensional data and the second three-dimensional data by converting coordinates of the first three-dimensional data and the second three-dimensional data and pasting the first three-dimensional data and the second three-dimensional data together so that resulting data are new three-dimensional data.

6. (Previously Presented) The three-dimensional data input method according to claim 5, further comprising the steps of matching the image of the input portion with the guide image so that the scale of the guide image agrees with the scale of the object.

7. (Original) The three-dimensional data input method according to claim 5, wherein the shooting is performed for plural positions different from each other for the object.

8. (Original) The three-dimensional data input method according to claim 5, wherein the image of the three-dimensional shape model is retrieved from the memory.

9. (Original) The three-dimensional data input method according to claim 8, wherein a plurality of the image of the three-dimensional shape model is memorized.

Claims 10-16 (Cancelled)

17. (Currently Amended) A three-dimensional data input method of using a three-dimensional data input apparatus that is constructed to input the three-dimensional data of a portion of an object displayed on a monitor screen by shooting the object, the method comprising the steps of:

memorizing attribute information in a memory, the attribute information being about data of a three-dimensional shape model having a shape that is substantially the same as the shape of the object and a position for observing the three-dimensional shape model;

displaying on the monitor screen, in accordance with the attribute information, the image of the three-dimensional shape model as a guide image for framing in order to perform registration for a subsequent shooting;

changing a posture of the image as the first three-dimensional data for specifying unmeasured portions;

framing so that the image of the input portion is overlapped on the guide image;
and

shooting the object after the framing is performed in order to obtain second three-dimensional data; and

performing registration of the first three dimensional data and the second three-dimensional data by converting coordinates of the first three-dimensional data and the second three-dimensional data then pasting the first three-dimensional data and the second three-dimensional data together so that resulting data are new three-dimensional data.

18. (Previously Presented) The three-dimensional data input method according to claim 17, further comprising the step of matching the image of the input portion with the guide image, so that the scale of the guide image agrees with the scale of the object.

19. (Previously Presented) The three-dimensional data input method according to claim 17, wherein the shooting is performed for plural positions different from each other for the object.

20. (Currently Amended) A three-dimensional data input apparatus for obtaining three-dimensional data of an object by shooting the object, the apparatus comprising:
a monitor for displaying the object;
a first memory for memorizing attribute information about data of a three-dimensional shape model having a shape that is similar to the shape of the object and a position for observing the three-dimensional shape model and changing a posture of the image as the first three-dimensional data for specifying unmeasured portions; and

a display controller for displaying on the monitor, in accordance with the attribute information, the image of the three-dimensional shape model as a guide image for scaling in order to perform registration for a subsequent shooting to obtain second three-dimensional data, wherein

after obtain the second three-dimensional data, registration of the first three-dimensional data and the second three-dimensional data is performed by converting coordinates of the first three-dimensional data and the second three-dimensional data then pasting the first three-dimensional data and the second three-dimensional data are pasted together so that resulting data are new three-dimensional data.

21. (Previously Presented) The three-dimensional data input apparatus according to claim 20, further comprising a processor for matching the image of the object with the guide image and scale changing means for changing the scale of the guide image in accordance with the matching.

22. (Previously Presented) The three-dimensional data input apparatus according to claim 20, further comprising a second memory for memorizing three-dimensional data of the shot object.

23. (Previously Presented) The three-dimensional data input apparatus according to claim 22, wherein the image generator generates a three-dimensional model image in accordance with the data memorized in the second memory.